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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,551	12/14/2000	Satoshi Kidooka	P20361	6566

7055 7590 04/09/2003

GREENBLUM & BERNSTEIN, P.L.C.  
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RESTON, VA 20191

EXAMINER
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LAM, ANN Y

ART UNIT	PAPER NUMBER
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3763

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application N .</b>	<b>Applicant(s)</b>
	09/735,551	KIDOOKA, SATOSHI
	<b>Examiner</b>	<b>Art Unit</b>
	Ann Y. Lam	3763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 28 January 2003 .

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-16 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-16 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)      4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)      5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.      6)  Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hughes, 6,158,676.

Hughes discloses an annular, protruded wall (70 and 76), which is spaced outwardly from an outer periphery of the spray nozzle, see near (32) in Figure 2C, which is protruded forwardly, and which surrounds an exit of the spray nozzle, see Figure 2C and 8A.

As to claim 2, a wall surface extending between the outer periphery of the spray nozzle and the annular, protruded wall is defined by a tapered surface or a curved, concave surface, see (76) in Figure 2C and 3.

As to claim 3, a wall surface extending between the outer periphery of the spray nozzle and the annular, protruded wall is defined by a planar surface perpendicular to an axis of the spray nozzle, see near (56) in Figure 2C.

As to claim 4, a wall surface of the annular, protruded wall is parallel to an axis of the spray nozzle, see (70) in Figure 2C.

As to claim 5, a wall surface of the annular, protruded wall () is defined by a forwardly spread surface or a forwardly constricted surface, see (76) in Figure 2C.

As to claim 6, a cylindrical portion is disclosed at (70), and a leading end wall (76) at a leading end of the cylindrical portion, the leading end wall having an spray nozzle, the leading end wall including a first wall surface (i.e., outer surface of 76), and a second wall surface (i.e., inner surface of 76)).

As to claim 7, the first wall surface is conical.

As to claim 8, the first wall surface is curved in section.

As to claim 9, the first wall surface is planar in section.

As to claim 10, the first wall surface is planar.

As to claim 11, the second wall surface (i.e., inner surface of 76) extends radially inwardly from the periphery of the first wall surface (i.e., outer surface of 76), see Figure 2C.

As to claim 12, the second wall surface (i.e., inner surface of 76) extends radially outwardly from the periphery of the first wall surface (i.e., outer surface of 76), see Figure 2C.

As to claim 13-16, the nozzle is a spray nozzle, and is configured to spray a liquid therethrough, see column 9, line 32.

### ***Response to Arguments***

Applicant's arguments with respect to the above claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bellhouse et al., 6,013,050, and Nita et al. 5,916,192, both disclose a nozzle as claimed and is considered to spray liquid to the extent that fine droplets of fluids are dispensed through the nozzle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Y. Lam whose telephone number is (703) 306-5560. The examiner can normally be reached on T-F 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (703)308-3552. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3590 for regular communications and (703)306-4520 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0858.

A.L.   
March 27, 2003

  
BRIAN L. CASLER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700